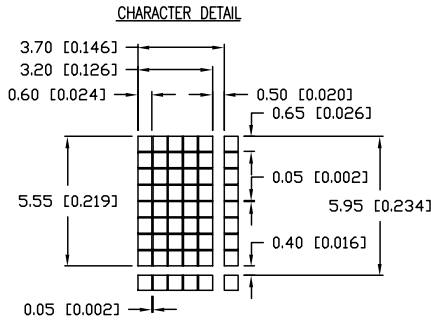


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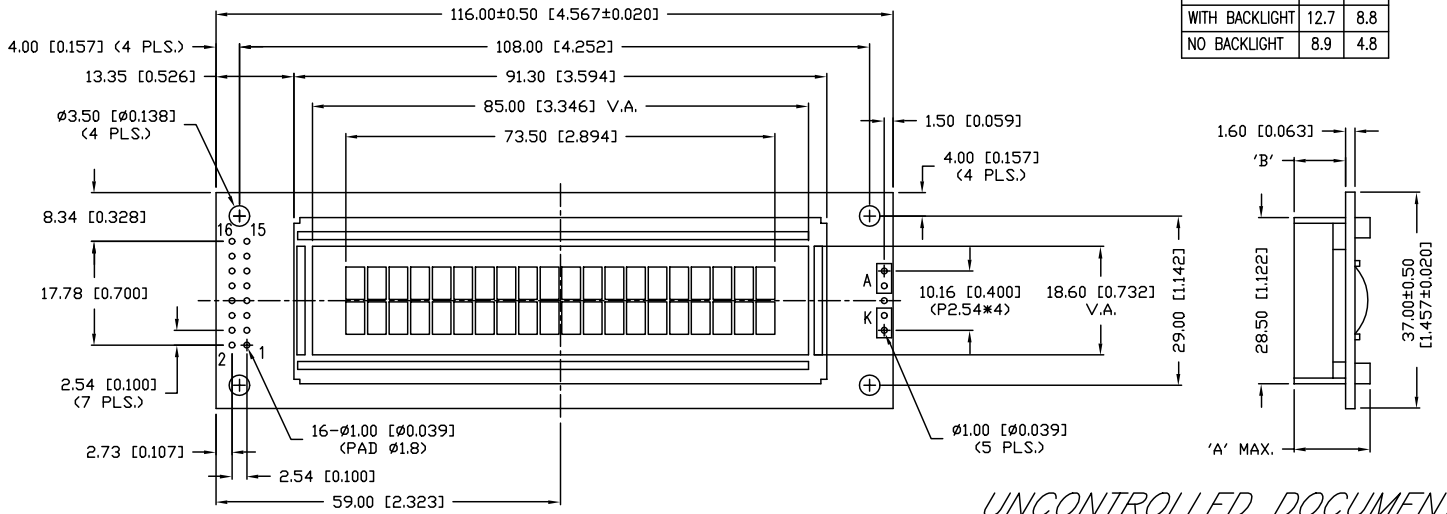
PART NUMBER		REV.
LCM-X02002DXX		B
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #10447./	8-3-98
B	E.C.N. #10BRDR. & REDRAWN.	9-4-98

P/N PREFIX/SUFFIX TABLE		
LCM-X	DXX	DESCRIPTION
STANDARD	S	SR STN, REFLECTIVE
	SF	SF STN, TRANSFLECTIVE(W/ BACKLIGHT)
HIGH TEMP.	H	TR TN, REFLECTIVE
	TF	TF TN, TRANSFLECTIVE(W/ BACKLIGHT)

CAUTION: STATIC SENSITIVE DEVICE  
FOLLOW PROPER E.S.D. HANDLING PROCEDURES  
WHEN WORKING WITH THIS PART.



TYPE	DIM.	A	B
WITH BACKLIGHT	12.7	8.8	
NO BACKLIGHT	8.9	4.8	



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\*UNLESS OTHERWISE SPECIFIED TOLERANCE IS ±0.25mm (±0.010")

REV.	PART NUMBER
B	LCM-X02002DXX
5.55mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX, 20 x 2 LCD MODULE, 1/16 DUTY, 1/5 BIAS.	

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**RELIABILITY NOTE**  
OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE. PLEASE PAY ATTENTION TO YOUR SOLDERING PROCESS.



290 E. HELLEN ROAD  
PALATINE, ILLINOIS 60067  
PHONE: 1-847-359-2790  
WEB: HTTP://WWW.LUMEX.COM

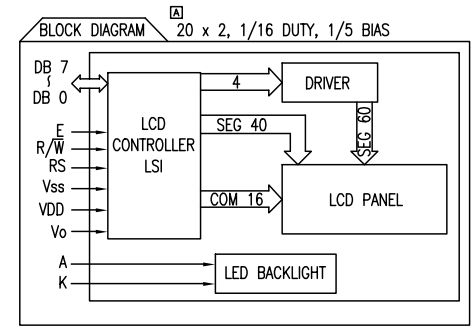
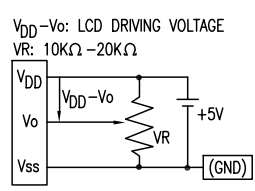
DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
SA/BC			4-2-98
			PAGE: 1 OF 2
			SCALE: N/A

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PART NUMBER LCM-X02002DXX		REV. B
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
	SEE PAGE #1./	

PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V <sub>SS</sub>	-	GND (0V)
2	V <sub>DD</sub>	-	POWER SUPPLY
3	V <sub>O</sub>	-	5V FOR LCD DRIVE
4	RS	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT
5	R/W	H/L	H: DATA READ (MODULE-->MPU) L: DATA WRITE (MODULE<--MPU)
6	E	H,H->L	ENABLE
7~14	DB0~DB7	H/L	DATA BUS--SOFTWARE SELECTABLE 4 OR 8 BIT MODE.
15	A	-	ANODE LED BACKLIGHT
16	K	-	CATHODE LED BACKLIGHT



ELECTRICAL CHARACTERISTICS

V<sub>DD</sub>=4.7V to 5.3V, T<sub>A</sub>=25°C

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT	
			MIN.	TYP.	MAX.		
SUPPLY VOLTAGE FOR LOGIC	V <sub>DD</sub> -V <sub>SS</sub>	-	-	5.0	-	V	
SUPPLY CURRENT FOR LOGIC	I <sub>DD</sub>	V <sub>DD</sub> =5V	-	2.0	3.0	mA	
INPUT VOLTAGE	HIGH	V <sub>IH</sub>	-	2.2	-	V <sub>DD</sub>	
	LOW	V <sub>IL</sub>	-	0	-	0.6	
OUTPUT VOLTAGE	HIGH	V <sub>OH</sub>	-	2.4	-	V	
	LOW	V <sub>OL</sub>	-	-	0.4	V	
*LED BACKLIGHT	VOLTAGE	V <sub>f</sub>	I <sub>f</sub> =210mA	-	4.2	4.6	V
	CURRENT	I <sub>f</sub>	-	-	210	-	mA
	POWER CONSUMPTION	P <sub>D</sub>	-	-	882	-	mW
	LUMINOUS	L	I <sub>f</sub> =210mA	70	-	-	cd/m <sup>2</sup>
	COLOR	-	-	-	-	-	nm

\*ONLY APPLIES TO MODULES WITH BACKLIGHT

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V <sub>DD</sub> -V <sub>SS</sub>	T <sub>a</sub> =25°C	4.7	5.3	V
SUPPLY VOLTAGE FOR LCD DRIVE	V <sub>DD</sub> -V <sub>O</sub>	-	4.2@50°C	4.8@0°C	V
INPUT VOLTAGE	V <sub>I</sub>	T <sub>a</sub> =25°C	V <sub>SS</sub>	V <sub>DD</sub>	V
OPERATING TEMPERATURE	T <sub>opr</sub>	LCM-S	0	50	°C
		LCM-H	-20	70	°C
		LCM-S	-20	70	°C
STORAGE TEMPERATURE	T <sub>stg</sub>	LCM-H	-30	85	°C

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